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MANDATORY PARTICIPATION IN THE DIRECT
DEPOSIT SYSTEM FOR U.S. NAVY MEMBERS:
ISSUES AND CONCERNS

by

Molly J. McClellan

June 1990

Thesis Advisor:

Kenneth J. Euske

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SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

Form Approved
OMB No 0704-0188

1a REPORT SECURITY CLASSIFICATION UNCLASSIFIED			1b RESTRICTIVE MARKINGS		
2a SECURITY CLASSIFICATION AUTHORITY			3 DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution is unlimited		
2b DECLASSIFICATION/DOWNGRADING SCHEDULE			5 MONITORING ORGANIZATION REPORT NUMBER(S)		
4 PERFORMING ORGANIZATION REPORT NUMBER(S)			7a NAME OF MONITORING ORGANIZATION Naval Postgraduate School		
6a NAME OF PERFORMING ORGANIZATION Naval Postgraduate School		6b OFFICE SYMBOL (If applicable) Code 37	7b ADDRESS (City, State, and ZIP Code) Monterey, California 93943-5000		
6c ADDRESS (City, State, and ZIP Code) Monterey, California 93943-5000		9 PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER			
8a NAME OF FUNDING/SPONSORING ORGANIZATION		8b OFFICE SYMBOL (If applicable)	10 SOURCE OF FUNDING NUMBERS		
8c ADDRESS (City, State, and ZIP Code)		PROGRAM ELEMENT NO	PROJECT NO	TASK NO	WORK UNIT ACCESSION NO
11 TITLE (Include Security Classification) MANDATORY PARTICIPATION IN THE DIRECT DEPOSIT SYSTEM FOR U.S. NAVY MEMBERS: ISSUES AND CONCERNS					
12 PERSONAL AUTHOR(S) McClellan, Molly J.					
13a TYPE OF REPORT Master's Thesis		13b TIME COVERED FROM _____ TO _____		14 DATE OF REPORT (Year, Month, Day) 1990, June	
15 PAGE COUNT 74					
16 SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.					
17 COSATI CODES			18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB GROUP	Direct Deposit System (DDS); Source Data System (SDS); Personal Financial Management; Automated Teller Machines (ATM's); Electronic Funds		
19 ABSTRACT (Continue on reverse if necessary and identify by block number) This thesis discusses issues pertaining to the implementation of a mandatory direct deposit policy by the U.S. Navy. Research was concentrated on issues of concern to the afloat community and personal financial management. Availability of cash underway, the impact of shipboard ATM's and the ability of the Navy's various afloat pay data entry systems to provide accurate and timely service in a direct deposit environment were analyzed. The personal financial management skills necessary for successful interaction with the Direct Deposit System were defined and the Navy's current means of providing training to acquire those skills were explored. Among the conclusions reached by the author are that the Navy's current afloat pay data entry systems cannot provide sufficiently timely or accurate service to support a mandatory direct deposit policy, and that the Navy's current means of providing relevant personal financial management					
20 DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT <input type="checkbox"/> DTIC USERS			21 ABSTRACT SECURITY CLASSIFICATION Unclassified		
22a NAME OF RESPONSIBLE INDIVIDUAL Prof. Kenneth J. Euske			22b TELEPHONE (Include Area Code) (408) 646-2860		22c OFFICE SYMBOL Code AS/Ec

DD Form 1473, JUN 86

Previous editions are obsolete

S/N 0102-LF-014-6603

SECURITY CLASSIFICATION OF THIS PAGE

UNCLASSIFIED

#18 - SUBJECT TERMS - (CONTINUED)

Transfer (EFT)

#19 - ABSTRACT - (CONTINUED)

skills training are inadequate to prepare Navy
members for a mandatory direct deposit policy.

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Mandatory Participation in the Direct Deposit System
for U.S. Navy Members: Issues and Concerns

by

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MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
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ABSTRACT

This thesis discusses issues pertaining to the implementation of a mandatory direct deposit policy by the U.S. Navy. Research was concentrated on issues of concern to the afloat community and personal financial management. Availability of cash underway, the impact of shipboard ATM's and the ability of the Navy's various afloat pay data entry systems to provide accurate and timely service in a direct deposit environment were analyzed. The personal financial management skills necessary for successful interaction with the Direct Deposit System were defined and the Navy's current means of providing training to acquire those skills were explored. Among the conclusions reached by the author are that the Navy's current afloat pay data entry systems cannot provide sufficiently timely or accurate service to support a mandatory direct deposit policy, and that the Navy's current means of providing relevant personal financial management skills training are inadequate to prepare Navy members for a mandatory direct deposit policy.

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I. INTRODUCTION

A. BACKGROUND

Direct deposit, which sends payroll checks via Electronic Funds Transfer (EFT) into employees' checking or savings accounts, has been available in both private and public sectors since 1974. For the employee, direct deposit has the advantage of making an individual's paycheck secure, on-time and readily available. For the employer, direct deposit lowers administrative expenses and increases employee productivity (e.g., employees no longer have to take time off from work to go to the bank to deposit their paychecks). For the military, direct deposit serves the unique purpose of enhancing the state of combat readiness; sudden or extended deployments will not cause direct deposit participants to be concerned with how they will get their paychecks to the bank. Computers will take care of depositing their paychecks for them.

In the U.S. Army, direct deposit, known as SURE-PAY, has been mandatory for new accessions since 1985. The U.S. Air Force recently approved a similar policy, which was instituted in July 1989, called the "Direct Deposit of Pay" program. Participation in direct deposit is still voluntary among members of the U.S. Navy and Marine Corps.

This thesis explores some of the issues and potential problems surrounding the possibility of making the direct deposit of payroll checks mandatory for U.S. Navy active duty personnel.

B. OBJECTIVES

Voluntary participation in the Direct Deposit System (DDS) within the U.S. Navy has produced an enrollment rate of only 53.8 percent [Ref. 1]. The Navy, by allowing members to continue to participate in this program on a voluntary basis, could be missing out on some significant benefits (e.g., cost savings). However, if participation in DDS is to be made mandatory for all Navy active duty personnel and/or new accessions, several issues must be resolved. Two such issues are the ramifications of direct deposit for afloat personnel and the development of training programs for Navy personnel in personal financial management skills. The former issue arises because of shipboard life's unique environment. The latter issue arises because mandatory direct deposit will force many Navy personnel to manage their money in new and different ways (e.g., with checking accounts). It is the objective of this thesis to discuss those issues and attempt to resolve them.

C. ASSUMPTIONS

The author has assumed, throughout the thesis, that the majority of direct deposits will be sent to checking

accounts instead of savings accounts. Checking accounts provide greater flexibility for the member in the important area of bill paying.

Continuing to pay one's bills while underway is not usually a problem for the married member. The member sets up his or her direct deposit to go to a joint checking account and the spouse pays the member's bills during the member's absence from that joint account.

The single sailor (defined here as a member with no dependents or a single parent with one or more minor children) assigned to an afloat command, however, does not have a spouse at home to pay the bills. He or she must continue to bear 100 percent of the responsibility for meeting his or her financial obligations while underway. This can be done either with a checking account or the purchase of money orders. If the single sailor chooses to have a checking account, he or she arranges to have all bills sent to the ship while on deployment and the sailor simply writes checks to pay the bills as they come in.

In a non-mandatory DDS environment, a sailor, married or single, who chooses not to have a checking account can meet his or her financial obligations by purchasing money orders at the ship's post office with the cash he or she receives on paydays. But in a mandatory DDS environment, there will no longer be any cash paydays. Married members who previously relied on a cash/money order system for paying

their bills will probably open a joint checking account for their direct deposit so that their spouses can pay their bills while underway.

Those members who might wish to send their direct deposit to a savings account will find that, as things currently stand, they have no means of getting cash from that savings account while underway, so buying money orders to pay their bills will be difficult.

Therefore, the author assumes that, in a mandatory DDS environment, most sailors, particularly the single ones assigned to afloat commands, will open checking accounts instead of savings accounts so that they may have the means to pay their bills. There are over 125,000 single enlisted members assigned to afloat commands; they represent almost 21 percent of the total Navy population, almost 24 percent of the Navy's entire enlisted population and more than 46 percent of the Navy's enlisted population at sea [Ref. 2]. Although the research for this thesis is not limited to the ramifications of a mandatory direct deposit policy for single sailors assigned to afloat commands, their large numbers and special needs validate the assumption that the majority of direct deposits will be sent to checking accounts instead of savings accounts.

D. RESEARCH QUESTIONS

Specific research questions surrounding the problems the Navy will face if participation in DDS becomes mandatory

fall into two main categories: issues surrounding the afloat community, and training in personal financial management skills, such as checkbook management.

1. Mandatory Direct Deposit Afloat

Mandatory direct deposit afloat raises several issues because of the very nature of life afloat, i.e., long periods at sea with minimal contact with support facilities located ashore.

One of these shore support facilities is the Navy Finance Center in Cleveland, Ohio; it is responsible for computing the pay of Navy members. The pay data of most members attached to shore commands is transmitted to NFC via computer linkups which depend heavily upon telephone land-lines. But ships, which leave port for extended periods, cannot be hard-wired to a computer located in Ohio. A mandatory direct deposit policy raises the question of timely and accurate pay data input: Will the current pay data entry systems for afloat personnel be able to provide accurate and timely enough entitlement status to NFC to support a mandatory direct deposit program?

Banking facilities are another type of support afloat personnel are cut off from during deployments. Although Automated Teller Machines (ATM's) have been installed aboard a few ships, a mandatory direct deposit policy still raises several questions pertaining to how afloat participants in DDS and their families will gain

access to cash while the member is underway: How will the member get money to his/her family while underway? How will the member obtain cash while underway? Can the member's pay be split into two direct deposits, i.e., one for home and one for the ship? Can the ATM's already installed aboard some ships be linked to the member's account in a U.S. financial institution via a network like Plus or Cirrus?

2. Mandatory Direct Deposit and Personal Financial Management

Since the author has assumed that most direct deposits will go into checking accounts instead of savings accounts, the Navy must consider the impact of forcing young, inexperienced service members to manage their pay via a checking account. Many Navy officials feel that a checking account in the hands of a neophyte wage earner will be a pretty tempting item to abuse and they fear (albeit without proof) that mandating participation in DDS could cause increased financial problems for some members due to overdrafts. Questions raised in this area by a mandatory direct deposit policy are: What personal financial management skills are necessary for members to interact successfully with a mandatory direct deposit program? Do existing programs provide adequate training in these skills? If they do not, how can the Navy best provide its members with these skills?

E. RESEARCH METHODOLOGY

A thorough review of DDS, EFT, military pay data input and pay delivery systems and military banking literature has been conducted. Interviews were also conducted in person and by telephone with Navy personnel at the Navy Accounting and Finance Center (NAFC), the Navy Finance Center (NFC), the Naval Military Personnel Command (NMPC) and the Office of the Comptroller of the Navy (NAVCOMPT) who are involved in the formulation of the Navy's proposed mandatory direct deposit policy. Army personnel responsible for the Army's SURE-PAY program and Air Force personnel responsible for the Air Force's "Direct Deposit of Pay" program were also interviewed. The author participated in several fleet/ashore briefing sessions in which mandatory direct deposit was a principal topic and also reviewed NAFC's direct deposit message traffic from the field.

F. SCOPE OF THE THESIS

The thesis analyzes issues directly related to the mandatory direct deposit of net pay by current active duty personnel and new accessions to the U.S. Navy. Issues pertaining to retirees, reservists and civilian employees of the Department of the Navy and the U.S. Marine Corps are not included in this thesis. Issues pertaining to implementation of a mandatory direct deposit policy for Navy personnel stationed overseas are not included in this thesis either.

G. ORGANIZATION OF THE STUDY

Chapter II provides a background of DDS. It discusses how Navy pay is computed and delivered, briefly describes the history of DDS and how it works, explains the enhancements the Navy has made to DDS in the past two years, and sets forth the proposed policy for mandatory participation. Chapters III and IV provide analyses of the afloat community and personal financial management issues surrounding the mandating of participation in DDS. Chapter V presents a summary of the preceding analyses and discusses the conclusions and recommendations.

II. BACKGROUND

A. NAVY PAY COMPUTATION

Pay for all active duty military members is computed using a centralized, automated pay system. This system is called the Joint Uniform Military Pay System (JUMPS) and the Navy's branch of this system is maintained by NFC. Each active duty Navy member's Master Military Pay Account (MMPA) is maintained via JUMPS at NFC.

Before the advent of direct deposit and the development of sophisticated pay data entry systems, JUMPS computed everyone's pay once a month, one month in advance, and printed this pay forecast on each member's Leave and Earnings Statement (LES). The LES's were printed at NFC and then mailed to the appropriate disbursing officer who paid the member according to the amount shown on the LES. If the disbursing officer or the member disagreed with the forecast on the LES, the pay could be recomputed and paid locally; this procedure is called an override.

All members who are not enrolled in DDS and whose pay data are not entered through the Source Data System still have their pay computed once a month by JUMPS (the Source Data System for pay data entry is discussed fully in Chapter III). DDS participants and Source Data System customers have their pay computed twice a month by JUMPS. This means

that their pay is recomputed for every payday using the most up-to-date pay entitlement data available for the member in the JUMPS data base.

B. NAVY PAY DELIVERY SYSTEMS

The term Direct Deposit System and its acronym DDS, as used by the U.S. Navy, refer to the electronic transfer of a member's net pay through the Federal Reserve System to the member's checking or savings account in a bank, credit union or savings and loan. DDS is a pay delivery system currently available to everyone in the U.S. Navy on a voluntary basis. Navy members may choose to have their pay delivered to them in cash, by check, by allotment, by direct deposit or by a combination of cash and/or check and allotment, or allotment and direct deposit.

Members who choose the cash or check options are paid their net pay twice a month. Net pay refers to the member's monthly gross pay, less all deductions (e.g., taxes and allotments), divided by two.

Members may also choose to have all or part of their pay paid out in allotments. Allotments may not be sent to just anybody (e.g., they cannot be set up to repay credit card companies), but they may be sent, for example, to dependents, financial institutions, charities and insurance companies. The member specifies a certain amount to be sent to the designated recipient every month. The amount is deducted from the member's gross pay during the month and

sent to the recipient at the beginning of the following month.

Direct deposit differs from an allotment in that the member does not specify an amount to go to his or her account at a financial institution; the entire net pay is sent. It is sent twice a month, on the paydays of the 1st and 15th of the month. Allotments are sent out on the payday of the 1st of the month following the month the money was actually deducted from the member's pay.

Members who choose to have their pay delivered in a combination of cash/check and allotment simply receive a check or cash in the amount of whatever is left of their monthly net pay. Members receive what is left of their net pay on regular paydays even though the allotments are paid out only once a month.

Members who choose to have their pay delivered by a combination of allotment and direct deposit receive neither cash nor check on payday. The allotments are deducted as usual throughout the month and are paid on the payday of the 1st. The amount deposited by direct deposit is the remainder of their monthly net pay, divided by two, after all allotments have been deducted. Because DDS, as currently set up within the U.S. Navy, allows for the direct deposit of funds into only one account at one financial institution, members may choose to have their pay delivered to them by allotment and direct deposit in order to place

funds in multiple accounts at one or more financial institutions.

C. HISTORY OF THE DIRECT DEPOSIT SYSTEM

Prior to 1986, Navy members had the option of having their net pay deposited for them if they enrolled in the Pay Deposited Quicker (PDQ) program. This system did not make any use of sophisticated electronics; instead deposits were still accomplished by the manual cutting of checks. The local disbursing office cut a composite check for each financial institution with customers participating in the PDQ program. The check and a list of the Navy members and their account numbers and the amounts to be credited were mailed to the financial institution; the individual accounts were then credited with the proper amounts on payday.

The direct deposit of funds via EFT first became available in the United States in 1974. That year saw the establishment of the first Automated Clearing Houses (ACH); without ACH's direct deposit an EFT could not exist. The ACH's act as clearing facilities for financial institutions thereby enabling these institutions to exchange electronic or paperless debits and credits among themselves. [Ref. 3: p. 10]

In February 1983 the Treasury Department notified all federal agencies that Direct Deposit/Electronic Funds Transfer, a Treasury Department term, was the preferred method for making salary payments. At the same time, the

Treasury Department announced the end of the Composite Check Program (and therefore, the end of PDQ) by the end of calendar year 1984. [Ref. 4:p. 13]

Although the Navy did not succeed in converting all PDQ payments to Direct Deposit/Electronic Funds Transfer by the Treasury Department's deadline, it did manage to convert all payments to active duty members by October 1986. After that, pay was computed and paid centrally from NFC for those members who wished to participate in a direct deposit program. The Navy also took the Treasury Department's term Direct Deposit/Electronic Funds Transfer and re-named the program the Direct Deposit System (DDS). [Ref. 4:p. 13]

D. HOW THE DIRECT DEPOSIT SYSTEM WORKS

As mentioned earlier, direct deposit would not exist without the services of the ACH's. The following is a description of how ACH's make DDS work.

NFC accumulates the pertinent pay data (name, social security number, ACH routing number, financial institution account number, payroll amount) of DDS participants twice each month on magnetic tape and delivers the tape to the Federal Reserve Bank, Cleveland, Ohio four days before payday [Ref. 5]. The Federal Reserve Bank, Cleveland enters the data into the ACH system. Cleveland's ACH "strips off" payment data going to financial institutions within its own Federal Reserve Bank district. The ACH then sends the remainder of the payment data electronically to the other

Federal Reserve Bank ACH's. The payment data for the appropriate financial institutions serviced by those ACH's is then stripped off [Ref. 4:p. 13].

On payday, the Federal Reserve Bank debits NFC for the total amount of the direct deposit payroll and credits the participating financial institutions' accounts; the financial institutions in turn credit each participating member's account with the proper amount. All of this has been achieved without the use of paper or checks of any kind.

E. ENHANCEMENTS TO THE DIRECT DEPOSIT SYSTEM

Since 1986, the Navy has made efforts to make participation in DDS as convenient for the member as possible. To this end, three enhancements have been made to the system in the past two years.

1. Dual Advisory

Normally a participant in DDS receives one advisory each payday which tells how much money was deposited in his or her account. This can cause problems for the married member who is deployed because the spouse is usually left unaware of how much money has been deposited in the family's account. In November 1987 an enhancement called Dual Advisory became available for members assigned to afloat, overseas and mobile units. The member continues to receive his or her advisory statement which is distributed by the local disbursing office on payday. A second advisory is

sent to the address the member specifies so that the spouse, parent or whomever the member might have a joint checking account with is kept informed.

2. No Surprise DDS

No Surprise DDS is an automatic feature designed to prevent a member from experiencing severe and unexpected financial difficulties due to recoupment of an overpayment. It became available in December 1987.

When an overpayment of \$100 or more occurs, "No Surprise" will cause a remark to appear on both the member's DDS advisory and the monthly LES. The remark informs the member of the overpayment and advises that payback will commence in two months. The payback is then spread over a period of three months, thereby allowing members and their families time to make necessary plans and adjustments before the pay is reduced. Overpayments of less than \$100 are recouped immediately in one lump sum.

3. Fast Start

In August 1988 the Fast Start enhancement to DDS was initiated. Fast Start greatly reduces the time between signing the enrollment documents and the date enrollment becomes effective. Before Fast Start was implemented, a member might have to wait as long as 50 days before participation became effective; now accounts may be started in an 11-26 day window after enrollment.

F. MANDATORY DIRECT DEPOSIT IN THE ARMY AND AIR FORCE

1. U.S. Army

The U.S. Army's mandatory direct deposit program, known as SURE-PAY, has been in effect since October 1, 1985.

The Army implemented the program

...to improve personal and family financial readiness, enabling the married soldier to better provide continued family care during a prolonged absence. It also improves the single soldier's capability to satisfy personal financial obligations while away from the permanent duty station. [Ref. 6:p. 3]

All new active duty accessions after October 1, 1985 have been required to participate within three months after arrival at their first duty station. All soldiers who entered active duty before October 1, 1985 and reservists who joined their reserve units prior to October 1, 1987 have been "grandfathered," i.e., they are not required to participate in SURE-PAY unless their status changes from active to reserve or vice versa. As of September 1989, the Army had an active duty participation rate of 92.6 percent [Ref. 1].

2. U.S. Air Force

The U.S. Air Force recently approved its own "Direct Deposit of Pay" program becoming effective for new active duty accessions on July 1, 1989. Current military members are "grandfathered" only in a limited sense; after July 1, 1989 they are required to participate as a condition of either reenlistment or acceptance of a regular commission. Even before the implementation of a mandatory policy, the

Air Force had a direct deposit participation rate of 94 percent [Ref. 7:p. 6]. As of September 1989, participation had increased to 97 percent [Ref. 1].

G. THE U.S. NAVY'S PROPOSED MANDATORY DIRECT DEPOSIT POLICY

1. Why Mandatory DDS for the Navy Now?

NAFC is working towards developing and implementing a workable mandatory direct deposit policy as soon as possible. Several reasons exist as to why the Navy now feels that a mandatory DDS policy is a viable plan.

Navy policy is being driven, in part, by the conviction that the quality of customer service provided by DDS has been significantly improved through both the implementation of the enhancements discussed earlier in the chapter and the widespread implementation of the Source Data System, a modern electronic pay data entry system. Officials at NAFC are now convinced that, in many instances, mandatory participation in DDS will provide both the most timely and accurate pay service for Navy members. [Ref. 8]

NAFC officials also believe that, by mandating participation in DDS, Navy members will be exposed to the many advances in banking technology, such as automatic transfers and withdrawals, and bill paying services. [Ref. 8]

Mandatory participation in DDS will also ease the workload for pay offices since the payroll will be computed centrally at the Navy Finance Center. Local pay offices

will no longer need to cut checks. The money will be deposited electronically in members' accounts at their financial institutions.

The Chief of Naval Operations (CNO) has also endorsed DDS for its safety and accuracy in delivering pay. The CNO has established a goal of 90 percent participation in DDS by December 1990. [Ref. 9]

2. The Navy's Proposed Mandatory Direct Deposit Policy

The Navy's proposed mandatory direct deposit policy is modeled very closely after the Air Force's policy. Participation will become a condition of employment for new accessions. They will sign an addendum to the enlistment contract/officer appointment requiring them to establish and maintain a checking or savings account with a U.S. financial institution and to enroll in DDS within 60 days of arrival at their first permanent duty station. Because enrollment is not necessary until arrival at the first duty station, recruits at boot camp and students at "A" schools are exempt.

Members who are already in the Navy but are non-participants in DDS when the implementation occurs, are, like their counterparts in the Air Force, subject to only limited "grandfather" status. Upon augmentation (i.e., acceptance of a regular commission), reenlistment or transfer to the reserves, these members will be required to

enroll in DDS. Active duty members will have 60 days and reservists will have 90 days to comply.

For members who are stationed in remote areas, or demonstrate consistently that they are unable to maintain a checking account, waivers will be available.

The Navy's proposed policy will be implemented in three phases; a member's requirement to participate in DDS will be largely governed by where he or she is stationed.

Phase I covers all shore-based active duty Navy members stationed in the United States (less Alaska) and will become effective sometime during 1990. Alaska is not included in Phase I because members stationed there are not a part of the Source Data System whereas all active duty members shore-based in the continental United States and Hawaii are.

Phases II and III will cover the overseas (including Alaska) and afloat communities respectively; no implementation dates have been set yet for those phases. Once again, the assignment of a separate phase for overseas personnel is based upon the fact that these personnel are not yet a part of the Source Data System.

Since members stationed overseas or in afloat commands are exempted from mandatory participation in DDS under Phase I, three possible situations need to be clarified.

If a member, who joins the Navy after Phase I of the policy is implemented, receives initial orders to a ship or overseas station, that member will not be required to participate in DDS until he or she transfers to a U.S.-based (less Alaska) shore station.

Likewise, a current member who reenlists aboard ship or overseas after Phase I of the policy is implemented will not be required to participate in DDS while aboard ship or overseas. But if that member transfers to a U.S.-based (less Alaska) shore station within the period covered by that reenlistment contract, he or she will then be required to participate in DDS within 60 days of arrival at that duty station.

Finally, any personnel stationed ashore in the continental U.S. who had been required to participate in DDS under Phase I would be free to disenroll from DDS upon executing orders to an overseas station or ship provided Phases II and III were not yet implemented.

III. ANALYSIS OF MANDATORY DIRECT DEPOSIT AFLOAT ISSUES

The analysis of the issues surrounding the mandating of participation in DDS for shipboard personnel cannot be undertaken without first describing the pay environment aboard ship. The events leading up to payday and the payday routine itself are described. Factors which complicate afloat pay are also discussed. Following the description of the shipboard pay environment, the two main issues surrounding the mandating of direct deposit afloat, timeliness and accuracy of pay input data and the availability of cash, are analyzed. A brief discussion of ATM's at sea and how they affect direct deposit concludes the chapter.

A. SHIPBOARD PAY ENVIRONMENT

1. Payday Evolutions

The payday routine described herein covers the details of delivering cash or checks into the members' hands on payday. It does not cover the computation of that pay; that aspect has been covered previously in Chapter II.

A few days before payday, the disbursing office posts a money list (NAVCOMPT Form 3056) outside the disbursing office. The list is made up of social security numbers and the amount each member is scheduled to receive on payday. It is the responsibility of each member to check his or her social security number and verify the forecast

pay amount. At this time, on some ships, the member may indicate his or her desire to receive his or her pay all in cash, all by check or by a combination of the two. The member then places his or her initials on the line next to his or her social security number.

On payday, any checks requested by crewmembers are distributed within departments and divisions aboard the ship. The disbursing officer, a disbursing clerk and the master-at-arms then set up the payline in an area where entrances and exits can be controlled (e.g., the messdecks). Members queue up to be paid, with the master-at-arms only letting two or three sailors into the immediate area of the payline. When it becomes a member's turn to be paid, he or she presents his or her identification card and the disbursing officer counts out the cash and then passes it to the deputy disbursing officer for a second count. When the amount has been confirmed by a second count, the member receives his or her cash and signs a copy of the original money list verifying that he or she has received the amount of cash stated on the list. [Ref. 10:para. 40216] Because this system is designed to be slow (to prevent both counting errors and the possibility of theft), cash paydays aboard ship take up several hours each payday. Not only are disbursing and master-at-arms personnel tied up, but the rest of the crew also is; they are standing in line waiting to be paid.

Just because the sailor has the cash in his or her hand does not mean that the payday routine is over. The standing in line has just begun. Lines form at the ship's post office (for the purchase of postal money orders) and at the local bank (to deposit the cash in a checking and/or savings account).

Check recipients are also subject to standing in line after payday. They may join their shipmates standing in line at the bank or stand in line at the disbursing office later that day in an effort to cash their paychecks.

For disbursing personnel, payday does not end when the last sailor in the payline is paid. Balancing out must take place in the disbursing office in the midst of holding both the previously mentioned check cashing hours and stragglers' payday for personnel who were on watch during regular pay hours.

Therefore, from a time saving and crew productivity standpoint, mandating participation in DDS for afloat personnel makes a great deal of sense. However, there is another side of the afloat pay environment which must be considered as well.

2. Entitlement Churn

Navy pay is made up of monthly basic pay and combinations of various entitlements. There are two types of entitlements: allowances and special pays. Examples of allowances are Basic Allowance for Subsistence, Variable

Housing Allowance, Basic Allowance for Quarters, and Family Separation Allowance. Allowances are not taxable and are usually designed to be given to broad groups of people within the Navy. Examples of special pays are Career Sea Pay, Career Sea Pay Premium, Flight Deck Hazardous Duty Pay, and Imminent Danger Pay. Special pays are taxable and are usually designed with a small, specifically targeted population in mind. [Ref. 1]

For most Navy personnel, basic pay and most allowances tend to remain at steady levels, no matter if they are stationed ashore or afloat. Changes are brought about by annual pay raises, promotions, time-in-service requirements, change in marital status, moving into or out of government quarters and permanent changes of station. These events are usually predictable and usually have only a one-time impact on the sailor's pay. Certain special pays for some officers stationed ashore also remain at steady levels (e.g., special pay for physicians and dentists). But the shipboard environment provides special pay and, in some cases, allowance entitlement for many sailors on an on-again, off-again basis. [Ref. 1]

The entitlement to Family Separation Allowance (FSA) occurs when the member's ship is away from its homeport for more than 30 days. Upon return to port, eligibility ceases. [Ref. 11:para. 30304]

Members stationed aboard a ship with a primary mission that is accomplished underway are entitled to Career Sea Pay (CSP) for the duration of their tour. Members stationed aboard a ship with a primary mission that is accomplished in port are entitled to CSP whenever their ship is at sea or at a port at least 50 miles away from homeport. Upon return to port, their entitlement ceases. [Ref. 11: para. 11803]

Entitlement to Career Sea Pay Premium (CSPP) occurs after a member has served three consecutive years of sea duty; this special pay will continue to be paid as long as the member is entitled to receive CSP. For members aboard ships whose primary mission is accomplished at sea, this means continuous payment of CSPP once the entitlement has been established. Entitlement to payment of CSPP for members assigned to ships whose primary mission is accomplished in port, however, is more volatile, since payment of the entitlement occurs only if the member is already receiving CSP. [Refs. 1; 11:para. 11811]

Entitlement to Flight Deck Hazardous Duty Pay (FDHDP) is tied to the sailor being ordered to perform duty in launching and recovering aircraft, the filling of a specific billet aboard ship and the number of days of flight operations that are performed that month by the ship. If the sailor is filling the specified billet but the ship remains in port or conducts less than four days of flight

operations in a month, no entitlement exists for that month, but it may exist in the next month. If the sailor is no longer required to perform duty in launching and recovering aircraft on that ship, the entitlement will cease to exist completely. [Ref. 11:para. 20321]

Entitlement to Imminent Danger Pay (IDP) can be either determined by Congress or the local area commander. Cessation of the entitlement is determined in the same manner. IDP may be bestowed upon an individual, a group of individuals, an entire crew, or a group of crews. [Ref. 11: Part 1, Chapter 10] Entitlement is tied to the situation (i.e., the member usually has been fired upon by unfriendly forces) and the geographic location (e.g., Lebanon, Peru). A recent example of Navy personnel receiving IDP is the Persian Gulf episode. After the USS Stark was fired upon, retroactive IDP was authorized from August 1987. This entitlement continued to exist for the crewmembers of all ships serving in the Persian Gulf (whether or not they were fired upon) until April 1989. [Ref. 1]

As individual entitlements, the amount to be paid may not be much (e.g., CSP is \$60 a month for a junior enlisted person and FSA for all ranks is also \$60 a month), but in many cases sailors are eligible for multiple special pays [Ref. 11]. Failure to pay special pays earned can, therefore, have a significant, negative impact on the sailor's morale and net pay because the special pays are

non-taxable. Likewise, the continued payment of a special pay that the sailor is no longer eligible for can cause a significant, negative impact on the member's net pay and morale when the overpayment is recouped. Because entitlement to these special pays can toggle on and off again, in some cases several times during the month, a prompt and accurate means of reporting entitlement (and cessation of entitlement) to NFC must be available to disbursing personnel afloat in order for a mandatory direct deposit policy to work afloat. A prompt and accurate pay (and personnel) data input system would provide NFC with the information necessary to include all current entitlement information in the monthly pay computations.

The Navy currently relies on three major pay data input systems for its afloat commands. In the next section, the author will describe these systems, their operating and communications environments and the impact those environments have on timeliness and accuracy of pay data input.

B. PAY DATA ENTRY SYSTEMS

Accuracy and timeliness of pay data input to NFC are essential for any mandatory direct deposit policy to work. Without it, members will routinely be under or overpaid. When a member is not enrolled in DDS, and NFC does not forecast the member's pay correctly due to inaccurate or missing data, the local disbursing officer can override the

forecast and pay the member from a local computation. Under a mandatory direct deposit policy, the override option will not be readily available; this will be particularly true in cases where the member has been overpaid by NFC since the member's pay will be centrally computed and deposited electronically in the member's account at a financial institution. Any errors in pay would have to be settled after the fact by the member's local disbursing officer.

A description of each of the three major afloat pay data entry system follows but first the system used for Navy members stationed ashore in the United States is examined because it is the success of this system which has both driven the implementation of a mandatory direct deposit policy and served as the standard against which all other pay data entry systems are measured.

1. The Source Data System

Virtually all personnel and disbursing functions for Navy personnel stationed ashore in the United States (less Alaska) are taken care of by 16 Personnel Support Activities (PSA's) and their 120 Personnel Support Detachments (PSD's). The pay data entry system used by these PSA's and PSD's is called the Source Data System (SDS). SDS is actually both a personnel and pay data input system. It was designed to recognize "the interdependence of pay and personnel matters and provides a single integrated system to support both systems." [Ref. 12:para. A10103]

SDS users have access to an automated data base called the Mini-Master which contains a record for every member for which the PSA or PSD is responsible. The Mini-Master contains personnel information and creates a separate pay data base containing basic pay information with additional information provided by disbursing personnel. Pay and personnel information are linked electronically to both the Naval Military Personnel Command (NMPC) and NFC. This link allows the field and NMPC/NFC to exchange information rapidly. The Mini-Master and pay data base are made up of data elements which field users can access to prepare input or to retrieve information for themselves or their customers. [Ref. 13]

A phenomenon which changes the information about a Navy member stored in the Mini-Master, is called an event. SDS software programs help an SDS user to input the data needed to record each event. The software also determines who needs to know about that event: NMPC for personnel events, NFC for pay events, or, as is often the case, both NMPC and NFC. SDS updates the Mini-Master and also sends the data to NMPC/NFC. The data are collected only once, even if they goes to both NMPC and NFC. [Ref. 12:para. A10103]

Communications within SDS are two-way; the disbursing clerk releases a pay event into SDS; within 24 hours NMPC and/or NFC send confirmation through the system

that the event has either been accepted or rejected.

Because SDS is shore-based, the two-way communications are largely dependent upon the Defense Data Network (DDN) which utilizes the land-line telephone system. Data are sent from the SDS user to a regional processing center such as a Navy Regional Data Automation Center (NARDAC). The NARDAC then batches the data and sends them throughout the day to front-end processors located in Washington, D.C. and Cleveland. The front-end processors provide the final link to the appropriate data base. For all pay events, that data base is JUMPS. [Ref. 13]

The SDS software which processes event input also contains many validity checks which help ensure that only valid data are entered. If invalid data are entered during event processing, SDS will respond with a message to help the field user identify the problem. [Ref. 12:para. A10103]

SDS has been highly successful in several areas. It has produced, as of March 1989, an accuracy rate of 99 percent and an override rate of only 5.5 percent [Ref. 14]. These figures speak to the system's ability to deliver the necessary data to NFC accurately and on time. It has also been successful because it has improved the working relationship between the personnel and disbursing offices.

Two recent enhancements to SDS are increasing its ability to successfully administer the pay of Navy personnel. Master Military Pay Account (MMPA) access for

disbursing clerks in the field (i.e., at the PSA's and PSD's) provides a view-only capability of the MMPA on the SDS terminal screen. Problem accounts can now be analyzed in the field; previously, only personnel at NFC had access to the MMPA and any analysis had to be done either by telephone or message. Error Correction and Control Online (ECCO) will allow these same disbursing clerks in the field to make certain corrections to the MMPA and fix certain types of rejected events, thereby streamlining the pay data input system even further. Like MMPA access, ECCO had previously been available only to personnel at NFC.

Navy officials at NAFC are confident that, in SDS, they have a viable pay data entry system which can handle the demands (i.e., speed and accuracy of data transmission) which a mandatory direct deposit policy will place upon it. [Ref. 8]

2. The Source Data System Afloat

The Source Data System Afloat (SDSA) is one of three pay data entry systems used by afloat commands. It is currently installed aboard 12 ships [Ref. 15]. The SDSA concept is the same as the SDS concept and it accesses the same personnel/pay data bases. Access to the Mini-Master is provided for personnelmen and yeomen, and access to the pay data base is provided for disbursing clerks; any data input into the system is acknowledged by the system. Unfortunately, while SDS has been very successful, SDSA has

encountered many problems, largely related to modes of communications. [Ref. 13]

In port, ships with SDSA communicate with JUMPS just like the ashore commands with SDS do: they use land-line telephone hook-ups to DDN. SDS users have had no problem gaining access to DDN but the SDSA users have experienced repeated difficulties in getting connected to DDN. [Ref. 13] If the connection cannot be made, the data cannot be sent, which causes delays in the receipt of entitlement data at NFC.

At sea, SDSA faces even greater communications challenges because it is completely dependent upon the Navy's telecommunications system. Because of that, SDSA is subject to garbled data, both input and response, and transmission of data is also subject to the tactical needs of the ship, which must come first. If the ship's tactical situation dictates an Emissions Control (EMCON) status, no message traffic of any kind will leave or be received by the ship until that status changes. Or if the ship finds itself in a geographic location where "MINIMIZE" conditions are in effect, only tactical messages will be released or received. Data for SDSA are considered administrative and their transmission would have to wait until "MINIMIZE" conditions were lifted or the ship leaves the "MINIMIZE" locale. [Ref. 13]

Officials at NAFC and NMPC originally considered SDSA to be an ideal means for pay and personnel data input afloat because it simply lifted the already proven SDS, less the MMPA access and ECCO enhancements, and placed it in the shipboard environment. Unfortunately, the shipboard environment has proven to be too great a challenge for SDSA's communications needs. [Ref. 13]

Because of other, non-pay related problems SDSA was experiencing, a decision was made in late 1989 to discontinue SDSA in its present configuration. A new micro computer-based application, to be called SDSA (Micro), is being developed with a target deployment date of October 1990. [Ref. 13] It remains to be seen whether or not SDSA (Micro) will provide better pay data input service for direct deposit participants.

3. Optical Character Recognition

The Optical Character Recognition (OCR) pay data input system is the oldest and most common system used aboard ship. Currently, 255 ships make use of this system [Ref. 15].

Unlike SDS and SDSA, OCR is considered to be strictly a pay data entry system. Although disbursing personnel are still dependent upon information given them by personnelmen, the personnel and disbursing offices function as separate entities. The OCR system is also a manual data input system in that disbursing personnel must carefully

type the pay data into specific fields on specially treated paper using a special typewriter font. The data are then mailed from the ship, no matter where the ship is, at sea or in port, to NFC where special machines "read" the documents and enter the data into JUMPS. [Ref. 13]

One would expect the OCR system to be subject to accuracy problems because of the human element involved in the typing of large quantities of documents. This, however, is not really the case. As of March 1989, the OCR system had an accuracy rate of 98 percent [Ref. 14].

The OCR system's biggest problem is its lack of timeliness. Because it is completely mail-based, the OCR system can experience time lags of as much as 25 days between the preparation date on the NAVCOMPT form and input into JUMPS at NFC. This is due to the fact that deployed ships do not always get daily mail service while underway. [Ref. 13]

Another problem with the OCR system is that it offers a one-way type of communications only. Once the disbursing clerk sends off the NAVCOMPT form to NFC, he or she has no way of knowing whether the document was accepted or rejected by JUMPS. Positive acknowledgement comes only in the form of eventual reflection of the pay event (e.g., the start of payment of Career Sea Pay Premium) in a member's LES when it arrives in the mail from NFC. [Ref. 13]

The repercussions of the OCR system for a mandatory direct deposit policy afloat are obvious: OCR is too slow and often forces disbursing personnel to operate in a state of isolation from NFC.

If a member assigned to an OCR ship is a non-participant in DDS, disbursing personnel can circumvent the slowness of the OCR system by overriding the LES forecast provided by NFC. Pay can be recomputed locally from the member's Personal Financial Record so that the member receives all entitlements promptly or stops receiving entitlements as soon as he or she is no longer eligible. The OCR system in a mandatory direct deposit environment can cope with underpayments (i.e., allowance/special pay entitlement data has failed to reach NFC in time to be included in the current pay computation) by allowing the disbursing officer to make supplemental cash payments. Navy policy stipulates that the payment is to be made with the understanding that the supplemental payment will put the member in an overpaid status at some point in the future (i.e., when the entitlement data enters JUMPS and a retroactive entitlement amount is deposited in the member's account in a financial institution) [Ref. 10:para. 40613]. The member is victimized by the Navy's choice of rather antiquated technology. The OCR system will cause additional problems in a mandatory direct deposit environment when the sailor is overpaid (i.e., cessation of allowance/special pay

entitlement data has failed to reach NFC in time to be included in the current pay computation) and DDS puts too much money in the member's account at a financial institution. The problem will be caused by the slowness of the OCR system and, as previously mentioned, the highly volatile nature of allowance/special pay entitlements afloat. Because of this, many sailors could find themselves in an overpaid status; efforts to collect the overpayment, be it by the No Surprise mechanism or lump sum recoupment, can cause morale problems.

4. Uniform Microcomputer Disbursing System

The Uniform Microcomputer Disbursing System (UMIDS) was originally designed to be an interim system for ships to use in between the abandonment of the OCR system and the installation of SDSA. It is currently installed aboard 107 ships [Ref. 15].

Like the OCR system, UMIDS is strictly a pay data entry system. As with the OCR system, disbursing clerks under UMIDS depend upon the personnelmen to supply them with entitlement eligibility data. And like the OCR system, communications with NFC are strictly one-way. Disbursing personnel do not know if JUMPS has accepted a transaction until that transaction is reflected in the member's LES. [Ref. 13] But there the similarities between the two systems end.

Where OCR is a manual system, UMIDS is an automated system. It utilizes Zenith microcomputers to access a pay data base which is unique to each terminal. Each data base handles approximately 450 pay accounts. UMIDS reduces erroneous data input by providing an edit and validation function during initial key entry. The accuracy rate for UMIDS stands at 96 percent as of March 1989 [Ref. 14].

The pay data are transmitted while underway to NFC by using the Navy's telecommunications system. This causes UMIDS to suffer from the same transmission problems while underway as SDSA. [Ref. 13]

In port, pay data are input to NFC by means of the Department of Defense Autodin system, which offers extremely reliable transmission capabilities. [Ref. 13]

Under a mandatory direct deposit policy, UMIDS would very likely be able to handle the situation in port, although disbursing personnel would still be handicapped by the lack of personnel data base interface and the one-way communications with NFC. At sea, UMIDS would still face the in port problems plus the same problems SDSA faces underway because of its dependence upon the Navy message system.

C. MAKING CASH AVAILABLE

To the sailor stationed aboard ship, it is unlikely that the ramifications of pay data entry systems vis-a-vis a mandatory direct deposit policy are of little interest. Rather, one would expect the major concern of the afloat

sailor, when faced with the possibility of being forced to enroll in DDS, is how will he or she get cash while underway if the net pay is going to his or her financial institution first?

The sailor would never be deprived of access to cash afloat under a mandatory direct deposit policy. He or she might, however, be forced to either make changes in how his or her pay is managed or manage it much more carefully than in the past, particularly when the sailor is leaving a spouse behind in port.

The sailor could set up two checking accounts: one for the spouse out of which all household bills are paid, and one for himself which would cover any expenses incurred while underway (e.g., liberty money, purchases in the ship's store). One account could be "fed" by an allotment and the other by the direct deposit. The sailor could then cash checks from his or her own individual checking account with the disbursing officer when the need for cash arose.

Another alternative would be to keep a joint checking account which is "fed" by the direct deposit and to put the sailor on an allowance for any deployments. The sailor would deploy carrying a number of blank checks from the joint account and knowing what the pre-determined spending limit is. As before, checks would then be cashed by the disbursing officer when the need for cash arises. This approach to ensuring cash availability while underway can

cause problems because the spouse at home has no idea when checks are being written or for what amount until the statement arrives from the financial institution. The point is, however, that cash will be available to sailors underway via their checking accounts. Disbursing officers do limit the amount of money a member can obtain each month by cashing checks to \$1000 but this limit has been doubled for DDS participants [Ref. 16:para. 042481].

Just about the only way an afloat sailor could be cut off from access to cash under a mandatory direct deposit policy would be if he or she chose not to open a checking account (i.e., the sailor had his or her net pay deposited to a savings account only) or if the sailor got into the habit of bouncing checks with the disbursing officer. In the first case, lack of access to cash would have to be considered a personal decision of the sailor. In the second case, the sailor would be disenrolled from DDS temporarily and put back on a cash payday basis until his or her financial situation improved. [Ref. 8]

D. AUTOMATED TELLER MACHINES AT SEA

1. Background

A pay delivery system completely separate from DDS built around the installation of ATM's aboard ships has been in development since 1980 [Ref. 17:p. 23]. ATM's were first installed in 1983 aboard the USS JOHN F. KENNEDY [Ref. 18: p. 10]. Although there are no longer any ATM's aboard the

KENNEDY, there are ATM systems currently installed on board eight ships with 110 more ships targeted to receive them. Current planning and funding limits installation of ATM's to ships having crew complements of over 400. However, that policy may change to eventually include all ships with a disbursing officer aboard, no matter what size the complement. [Ref. 19]

2. How the ATM's At Sea Work

The machines aboard ship, unlike ATM's ashore, are not affiliated with any bank or credit union. They are an extension of the disbursing office, nothing more. No interest is paid on any funds left on deposit in the ATM. And the ATM aboard ship cannot accept any money a member might wish to deposit into the ATM system for future withdrawal. Deposits into the ATM system may be made but the deposit must take place in the disbursing office.

Twice a month the member's net pay is deposited directly to the ATM system aboard ship.¹ Actually, it is not any different from having a direct deposit going to one's savings or checking account at a financial institution ashore and then accessing the money strictly from ATM's. The money becomes available to the member at midnight on payday. The member may withdraw as much of his pay as he

¹The member may still elect to send as much money as he or she wishes to savings and/or checking accounts at one or more financial institutions by means of a monthly allotment. Whatever is left of the member's monthly pay, divided by two (i.e., the net), will be deposited to the ATM on board ship.

wishes (subject to any crew-wide withdrawal limits the disbursing officer may have put into effect), anytime he wishes. The need to either hold the traditional all cash payday or endure long check cashing lines is thereby eliminated.

Since the member may elect to not withdraw funds, the ATM's also serve as a means of maintaining a "safekeeping" deposit with the disbursing officer. The sailor no longer has to receive the net pay in one lump sum. By withdrawing the salary from the ATM only as it is needed, the sailor reduces the risk of losing the entire payday amount or having it stolen. Secure access to the ATM's is gained through the use of plastic cards with magnetic strips and Personal Identification Numbers (PIN's) which are unique to each sailor.

After each transaction, the ATM provides the member with a receipt which indicates how much money is left in his or her account, just like the ATM's ashore do. And like the ATM's ashore, the cash is dispensed in combinations of 20 and five dollar bills. [Ref. 19]

3. ATM's and Mandatory DDS

What do ATM's have to do with the afloat community's concerns about mandatory participation in DDS? The answer is, a great deal.

The objectives behind the ATM's at sea project are quite similar to those of the mandatory direct deposit

policy: to eliminate the cumbersome procedures behind the cash payday, to automate pay procedures and to reduce both the possibility of theft of personal funds and long check cashing lines. [Ref. 19]

The installation of ATM's aboard ships should, therefore, complement the mandatory direct deposit policy because the machines offer sailors an easy, safe and readily accessible way to obtain cash afloat (and in port as well). ATM's working in conjunction with a mandatory direct deposit policy would also make it more feasible for a member to send his or her direct deposit to a savings account instead of a checking account if the member so desires; access to cash while underway would mean that a member with a savings account could then easily purchase money orders while underway to pay his or her bills. Unfortunately ATM's are not complementing DDS because, under current policy and computer programming requirements, members aboard ships with ATM's are being offered an either/or proposition for delivery of their net pay. They can either have their entire net pay deposited to the ATM or they can enroll in DDS, but they cannot do both.

4. Split Pay Option

Since the Navy is committed to both a mandatory direct deposit policy and the ATM's at sea program, a way should be found for the two programs to work together. This need has been recognized by both NAFC and NFC and steps are

being taken to make the ATM's work with DDS. An option, currently referred to as Split Pay, is being developed which would allow members assigned to afloat commands to both participate in DDS and obtain cash through the shipboard ATM.

Under the initial proposal, the amount to be deposited to the ATM is treated like an allotment in that the member specifies the amount he or she wishes to have put into the ATM system aboard his or her ship. Unlike an allotment, however, this money would be deposited to the ATM each payday, not just once a month. The remainder of the net pay would be deposited to the member's checking or savings account at a financial institution via DDS. [Ref. 20]

The initial proposal also assumes that the continuity of the ATM amount, since it is an allotment, will always take precedence over the net pay amount deposited via DDS [Ref. 20]. This is because all pay adjustments (e.g., fines) are taken out of a member's net pay instead of a member's allotments [Ref. 21]. An unforeseen pay adjustment could conceivably cause problems for the spouses left behind on the home front. If, for any reason (e.g., reduction in rank), the sailor's pay decreases drastically, the DDS account ashore at the financial institution will feel the repercussions of any reduction in pay before the account in the shipboard ATM will. If sailors do not give their

spouses timely notification or explanation of the circumstances causing the pay reduction, the spouse could then be caught completely by surprise by the amount actually deposited by DDS in the member's account at the financial institution.

The Split Pay option, although perceived as a necessity by officials at NAFC, is still only in the proposal stages [Ref. 8]. Many issues, such as unauthorized absence policies, must be settled before programming changes may begin. Because of that, the Split Pay option may not become a reality for several years.

5. ATM Network

Once the Split Pay option does become a reality, the ATM's can become a tool for making a mandatory direct deposit policy afloat feasible. ATM's afloat could become more powerful tools for individual financial management if they could be linked to the ashore ATM networks like Plus or Cirrus. Sailors underway could keep track of and have better access to their money on deposit at a financial institution. Perhaps the Split Pay option would not even be needed. The technology exists to make the necessary link between shipboard ATM's and ashore ATM networks via commercial satellite. However, there are many unresolved policy problems relating to policy and communications in a shipboard environment. For instance, will the ship's disbursing officer be required to act as both an agent of

the U.S. government and the Plus/Cirrus network (which are private sector corporations)? What effect would EMCON/MINIMIZE conditions have on financial network operations? Until these types of problems are solved, the Navy's shipboard ATM's will be unable to become part of a nationwide or worldwide financial network.

IV. ANALYSIS OF PERSONAL FINANCIAL MANAGEMENT ISSUES

A. PERSONAL FINANCIAL MANAGEMENT VERSUS PERSONAL FINANCIAL RESPONSIBILITY

Navy officials have long recognized that a mandatory direct deposit program will place new demands upon many Navy members in terms of how they handle their personal finances [Refs. 9; 22]. Personal financial management and personal financial responsibility are two terms often used to describe the heightened state of financial awareness that sailors will need to successfully interact with direct deposit. Some Navy officials believe that personnel can be given both financial management skills and a sense of financial responsibility via training [Ref. 9]. The author, however, does not think that this is, strictly speaking, true.

For the author, the idea of personal financial management encompasses the learning of various skills including, but not limited to, estate planning, credit awareness, investment strategies, budgeting and cash management. The teaching of these skills is something that can be undertaken by the Navy as a part of its training program.

Personal financial responsibility, on the other hand, is seen by the author as a highly desirable, but not necessarily teachable, attitude. Ideally, one should begin

to acquire this attitude at the same time one begins to earn money. Examples of personal financial responsibility could be the overt desire to avoid bankruptcy or the successful support of one's family on one's salary. Since personal financial responsibility is an attitude, it is not as easily undertaken as a training topic by the Navy; a classroom is not necessarily the appropriate environment for the acquisition of attitudes.

Edgar H. Schein, in his article "Organizational Socialization and the Profession of Management," found that, in any organization, novices (e.g., new recruits, officer candidates) begin to acquire the behaviors, attitudes and values compatible with the organization through several sources: the official literature of the organization, examples set by peers and role models, direct instructions given by the boss, and the rewards and punishments which are the direct result of the novice's attempts to assimilate these new values and behaviors. A classroom environment is never even mentioned as a possible scenario for this process. And the process is not a quick one; it can take years. [Ref. 23]

Therefore, the Navy should not attempt to teach financial responsibility in the classroom alone. Nor should the Navy expect its new recruits and junior personnel (both officer and enlisted) to acquire a sense of personal financial responsibility immediately. The Navy can,

however, do two things to make it clear to its personnel that personal financial responsibility is a desirable attitude to possess: it can, through policy changes, establish an environment where members will realize that personal financial irresponsibility will not be tolerated, and it can provide its members with an opportunity to acquire a variety of meaningful personal financial management skills so that they can manage their finances better and be better informed consumers of financial services.

The rest of this chapter covers those personal financial management skills necessary for members to make successful use of a mandatory direct deposit program, describes what means currently exist to teach those skills, and analyzes why those means do not necessarily work.

B. PERSONAL FINANCIAL MANAGEMENT SKILLS RELEVANT TO DIRECT DEPOSIT

In order to determine which personal financial management skills are most relevant to direct deposit, it is necessary to state two assumptions. As previously stated in Chapter I, the author has assumed that the bulk of mandatory direct deposits will go into checking accounts instead of savings accounts. The author also feels that customers of financial institutions will be increasingly exposed to ATM's. Therefore, even though the author sees personal financial management as a topic encompassing a broad range

of skills, for the purposes of interacting with a mandatory direct deposit program, only two personal financial management skills are specifically relevant. They are checkbook management and ATM management.

Successful checkbook management is made up of several skills: how to open the account, understanding of the different types of checking accounts available, how to properly make out and/or endorse a check, how to properly maintain the check register, the ability to balance the account to the bank statement and an understanding of float, interest earned and service charges.

ATM management skills include understanding the relationship between a financial institution ATM and the account(s) at the financial institution that the member is drawing on, how to read and interpret the receipt provided by the ATM after each transaction, and an understanding of ATM networks, service charges and safety. Given that there are differences between the Navy's ATM's and the banking industry's ATM's, those differences should also be covered in any ATM management training provided by the Navy.

C. CURRENT SOURCES OF FINANCIAL MANAGEMENT TRAINING

There are currently four possible sources of financial management training for Navy enlisted members (i.e., boot camp, General Military Training, Family Service Centers and the Navy Relief Society) and three sources for Navy officers (i.e., General Military Training, Family Service Centers and

the Navy Relief Society). The difference stems from the fact that officers are not exposed to the financial training that recruits receive in boot camp. There is no corresponding financial management training module for any of the officer accession programs (i.e., Naval Academy, Reserve Officer Training Corps, Officer Indoctrination School and Officer Candidate School) [Refs. 24; 25; 26]. A brief description of the training offered by each source follows.

1. Boot Camp

Navy recruits spend their first eight weeks in the Navy at boot camp where they learn how to be sailors. During their final week at boot camp, they are taught a three hour module called "Financial Responsibility." Topics covered during that three hour session include the Leave and Earnings Statement (LES), DDS, checking account management, budgeting, allotments and bankruptcy.

The author observed a training session at the Recruit Training Command, Orlando, and noted that most of the instructor's time was spent explaining the LES. This is not surprising considering it is the first time recruits have seen an LES and it is their introduction to, and, in many cases, the only explanation they will ever receive of, the complexities of military pay. ATM's are discussed at the discretion of the instructor or if a recruit has a question about them.

As things currently stand, this is the only mandatory, uniform, financial management training any Navy member ever receives.

2. General Military Training

All Navy personnel are to receive training on "Financial Responsibilities" at least once every two years, as part of the General Military Training (GMT) program [Ref. 27]. However, since the GMT program now revolves around the use of standardized, centrally-produced video cassette tapes as a teaching medium, only a few of the ten official GMT topics are actually being taught. Funds to produce the 30-45 minute tape on "Financial Responsibility" will not be available until at least Fiscal Year 1991 [Ref. 28]. Until then, no standardized financial management or financial responsibility training is being done as an official part of the GMT program. Individual commands, if they wish to conduct financial training, must either design their own training module or contact either or both of the following agencies.

3. Family Service Centers

Family Service Centers, which are part of NMPC, have three core functions: information and referral, education and training, and counseling. There are currently 73 Family Service Centers operating on Navy bases worldwide, with more being built every year. [Ref. 29]

Although the specific services offered may vary from center to center, most offer various financial management seminars. The seminars, which are open to members and spouses, cover topics such as car buying, taxes and budgeting. Checkbook management is not usually a separate seminar topic; it may be touched on during the budgeting seminar. [Ref. 29]

The Family Service Centers have also produced a five part video series on personal financial management. The videos can be used as a package or can be used individually. One of the five videos is entitled "Budgets and Checking Accounts."

Although the Family Service Centers' programs are open to all Navy members and their spouses on a voluntary basis, their services are more often used at the request of a command after a member is already experiencing financial difficulties. Making use of Family Service Center programs also generally entails going to the Family Service Center itself, which is not always conveniently located. [Ref. 29]

4. Navy Relief Society

The fourth possible source of financial management training for Navy members is the Navy Relief Society, a private organization which has never received any official tasking from the Navy on this matter. There are ten Navy Relief Society auxiliaries worldwide. [Ref. 30]

Five years ago, the Navy Relief Society established a preventative program to teach financial management. As a part of this program, they place a strong emphasis on checkbook management. [Ref. 30]

However, the only way a Navy member is ever exposed to this program is if the command requests a presentation from Navy Relief. Navy Relief will then send out a staff budget counselor to present the program. [Ref. 30]

D. WHY CURRENT TRAINING IS INEFFECTIVE

The Navy offers general personal financial management training. Much of it is also directly related to successful interaction with direct deposit. But evidence of a rising bankruptcy rate within the Department of the Navy forces the author to conclude that many Navy personnel continue to have inadequate or ineffective personal financial management skills [Ref. 31]. Although the Secretary of the Navy claims that easy credit and easier bankruptcy filing laws are partially to blame for the increase in bankruptcies, the author argues that part of the responsibility must be assumed by the Navy's current training in personal financial management [Ref. 31]. The Navy's current means of providing even the most basic financial management skills is ineffective for several reasons.

The current training programs are run by at least four major "players": the Chief of Naval Technical Training (CNTECHTRA), who designs the boot camp training module; the

CNO, who is in charge of GMT; NMPC, which runs the Family Service Centers; and the Navy Relief Society, which is not an official part of the Navy. As a result of this scattershot approach, each group teaches only what it sees as relevant and consequently much that could, and should be taught, may not be taught. The groups do not communicate among themselves so there is no coordinated, unified approach to the subject matter.

If the Navy does implement a mandatory direct deposit policy, a coordinated, unified training plan is exactly what will be required. An informal, non-random survey conducted for the author at the three recruit training commands in June 1989 indicated that 44 percent of recruits coming into the Navy have no experience with checking accounts and 63 percent have no experience with ATM's. That, coupled with the increasing bankruptcy rate mentioned in the previous paragraph, indicates to the author that large numbers of Navy personnel (and their spouses) will require intensive personal financial management training over a very short period of time (i.e., the time from announcement of the policy to implementation of the policy) in order to have even a minimally successful interaction with mandatory direct deposit. The author doubts that under the current training scenario, the different players could orchestrate a cohesive plan in time to provide that level of training.

Except for the training conducted in boot camp, the author could find nothing in Navy regulations to indicate that the training currently available is mandatory. GMT training is mandatory in theory but since the financial responsibility module of GMT does not yet exist, it cannot be taken into consideration here. All other available training takes place entirely at the discretion of either the command or the member.

As training programs currently exist, it is quite probable that sailors receive financial management training only once in their careers, i.e., at boot camp (and officers never receive any). Any further exposure to basic or advanced topics of financial management training after boot camp is haphazard at best. Again, if it does occur, it happens only at the discretion of either the command or the member. There appears to be little incentive for a command to provide the training; it does not even appear to be an area investigated during command inspections.

Because of his concern with the Navy's rising bankruptcy rate and the long and short term consequences of poor personal financial management for both the Navy and the member, the Secretary of the Navy has tasked the CNO with developing a comprehensive Personal Financial Management Program [Ref. 31]. Development of this program is currently being staffed by NMPC; meanwhile, the Navy's available

training on personal financial management, as outlined in the previous section, continues unchanged.

V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

A. SUMMARY AND CONCLUSIONS

1. Summary

This thesis has focused on some of the issues and concerns surrounding the Navy's proposed mandatory direct deposit policy.

After describing how Navy pay is computed and delivered, and how direct deposit works, issues of concern to the afloat community were explored. Emphasis was placed on the entitlement churn of the shipboard pay environment and the ability (in terms of timeliness and accuracy) of the various pay data entry systems to handle the situation. How each pay data entry system could impact a sailor's pay under direct deposit was also explored. Access to cash underway and the impact of shipboard ATM's on the direct deposit policy were also discussed.

Issues related to a mandatory direct deposit policy and personal financial management were also analyzed. The difference between personal financial management and personal financial responsibility was delineated, the personal financial management skills necessary to interact successfully with direct deposit were defined, and a summary of training related to those skills currently available to Navy members was given.

2. Conclusions

Although mandatory participation in the Direct Deposit System has been deemed feasible for Navy personnel assigned to shore stations in the United States, largely due to the success the Source Data System enjoys in terms of timeliness and accuracy of pay data input, there is no correspondingly successful pay data entry system in use afloat. Ashore, SDS is able to provide timely and accurate entitlement status to JUMPS in a stable data transmission environment. Afloat, the various pay data entry systems must deal with constantly fluctuating entitlement status in less than ideal data transmission environments. Of the three major pay data entry systems currently used in the Navy's afloat commands, one is being discontinued (albeit not for pay-related problems) and the other two continue to experience problems with getting correct entitlement status posted to JUMPS in time to prevent continual over and underpayments from occurring with their DDS customers. Incorrect amounts of money (either too little or too much) being sent to the bank and the subsequent repercussions of these mistakes, even if infrequent, have a definite impact on crewmember morale. Because of this, the author has concluded that making participation in a direct deposit program mandatory for afloat personnel would be unwise at this time.

The author has also reached the conclusion that the Navy's current means of providing relevant personal financial management skills training are inadequate to prepare Navy members for participation in a mandatory direct deposit policy. The training that is available is generally reactive in nature and must be sought out by the member or the command. Because there is no coordination among the players who do provide training, there are gaps in the training material.

A mandatory direct deposit policy will also require that relevant personal financial management training be provided for many former DDS non-participants (e.g., enlisted E-5 and below and all Ensigns) and their spouses, immediately after, if not before, implementation of the policy. Because the trainers, as previously mentioned, lack coordination, it is highly unlikely that large numbers of people could be introduced, over a short period of time, to the financial management skills necessary for successful interaction with the Direct Deposit System.

B. RECOMMENDATIONS

1. Recommendations Regarding Mandatory Participation in the Direct Deposit System and the Afloat Community

The author has three recommendations in this arena. The first recommendation is to delay the implementation of Phase III (the afloat phase) of the proposed mandatory direct deposit policy until the Navy has a pay data entry

system for the afloat community which can provide both timely and accurate entitlement status to JUMPS both in port and underway. Until that happens, members will continue to be plagued with over and underpayments. Possibly, SDSA (Micro) will provide the solution. Phase I (shore-based United States, less Alaska) however, should be implemented. Since the author did not conduct research pertaining to overseas issues for a mandatory direct deposit policy, a recommendation for the implementation of Phase II (shore-based overseas, plus Alaska) cannot be given here.

The author's other recommendations in this arena apply to those individuals in afloat commands who either choose to remain on DDS or decide to participate without a mandatory policy. For these individuals, the Navy should adopt an unlimited amount check cashing policy onboard ship so that a DDS participant's access to cash is never cut off. And for those DDS participants who find themselves stationed aboard a ship with an ATM installed, the Navy must make the development of a viable DDS/ATM split pay option one of its highest priorities so that the two pay delivery systems compliment one another instead of conflict.

2. Recommendations Regarding Mandatory Participation in the Direct Deposit System and Personal Financial Management

The author has five recommendations. The first recommendation is that the comprehensive personal financial management training called for by the Secretary of the Navy

be designed to be given continuously throughout a Navy member's career at specified intervals.

Secondly, the training must be centrally managed by the activity which can bring the most experience and expertise to the topic at hand. This may mean one command or an ad hoc committee made up of several interested commands (e.g., NMPC, NAVCOMPT and CNTECHTRA).

Thirdly, the training should be designed to be aggressively pro-active instead of reactive. The personal financial management skills necessary for successful interaction with a mandatory direct deposit policy must be taught before the member has had much of a chance to get into financial difficulty. Therefore, the heaviest emphasis on checkbook/ATM management should occur at boot camps, "A" schools and the Indoctrination Division of all other duty stations for E-5's and below and all officer accession points for Ensigns.

The author has mentioned previously that the implementation of a direct deposit policy will require that large numbers of individuals be trained very quickly in the personal financial management skills relevant to successful interaction with direct deposit. The author expressed the doubt that the current financial management training scenario would be able to handle such a large undertaking. The author's final two recommendations cover this situation. To accomplish the task of teaching large numbers of people

in a standard, uniform manner, the author recommends the use of a checkbook/ATM management workbook which could be given to each member to keep. The author also recommends the declaration of a Navy-wide "Financial Awareness Day" so that everyone would receive their training at the same time. Similar in concept to safety stand downs and the "Great American Smokeout," at least half of that workday could then be devoted to training members and their spouses by means of the workbook and seminars and counseling sessions led by the command's seniors. If successful, commands might wish to consider making "Financial Awareness Day" a yearly event instead of a one-time happening.

C. TOPICS FOR FURTHER RESEARCH

1. Topic Number One: Participation in Mandatory Direct Deposit Overseas

Issues pertaining to the implementation of a mandatory direct deposit policy for Navy personnel stationed overseas were specifically excluded from the scope of this thesis due to funding restraints. However, research needs to be undertaken to determine the impact of a mandatory direct deposit policy on these individuals. Areas of concern include use of military banking facilities instead of local banks, float, service charges, exchange rates and policies, and check cashing availability and limits.

2. Topic Number Two: Financial Awareness of Incoming Recruits

As mentioned in the previous chapter, an informal, non-random survey pertaining to the level of financial experience of incoming recruits was conducted for the author as preparation for writing this thesis. A formal survey should now be conducted to determine the level of financial awareness of the average recruit. Items to consider would be the recruit's experience, if any, with checking accounts, ATM's, credit cards, and budgeting.

LIST OF REFERENCES

1. Interview between Roger Castillo, Code 4110, Navy Accounting and Finance Center, Washington, D.C., and the author, 15 December 1989.
2. Telephone conversation between Charles Crowe, Code N1643D, Naval Military Personnel Command and the author, 12 March 1990.
3. Valenty, Patrick P., Jr., Electronic Funds Transfer (EFT) and Its Use in the Navy, Master's Thesis, Naval Postgraduate School, Monterey, California, June 1979.
4. Westphal, Melbert C., "DD/EFT Update," The Navy Supply Corps Newsletter, V. 48, March/April 1985.
5. Telephone conversation between Karen Mate, Code 6C, Navy Finance Center and the author, 19 May 1989.
6. Department of the Army Circular 37-88-1, Subject: The Army Sure-Pay Program, 9 December 1988.
7. Cronauer, H.T., "Direct Deposit: Moving Forward," The Navy Supply Corps Newsletter, V. 51, July/August 1988.
8. Interview between CDR H.T. Cronauer, Code 41, Navy Accounting and Finance Center, Washington, D.C., and the author, 19 May 1989.
9. CNO Washington DC Naval Message, Subject: Financial Affairs of Navy Personnel, 092305Z Dec 88.
10. Office of the Comptroller and Naval Military Personnel Command, Navy Pay and Personnel Procedures Manual, 1989.
11. Department of Defense, Military Pay and Allowances Entitlements Manual, 1989.
12. Office of the Comptroller and Naval Military Personnel Command, Source Data System Procedures Manual, V. 1, "SDS Systems Information," 1989.
13. Interview between Dea Stephens, Code 4121, Navy Accounting and Finance Center, Washington, D.C., and the author, 20 December 1989.

14. Interview between Gloria Harris, Code 411, Navy Accounting and Finance Center, Washington, D.C., and the author, 10 May 1989.
15. Interview between Bob Madison, Code 412, Navy Accounting and Finance Center, Washington, D.C., and the author 10 May 1989.
16. Office of the Comptroller, Navy Comptroller Manual, V. 4, "Disbursing," 1989.
17. Westin, Mark D., "Automated Teller Machines at Sea," The Navy Supply Corps Newsletter, V. 48, March/April 1985.
18. Scheidt, Calvin R., Jr., "Automated Teller Machine System on USS JFK," The Navy Supply Corps Newsletter, V. 48, January/February 1985.
19. Interview between LCDR Tom Snyder, Code 433, Navy Accounting and Finance Center, Washington, D.C., and the author, 26 May 1989.
20. George, H. and Koza, B., "Development of Split Pay," unpublished Navy Finance Center point paper, 15 November 1988.
21. Interview between Patricia Cristiano, Code 4327, Navy Accounting and Finance Center, Washington, D.C., and the author, 2 February 1990.
22. Navy Accounting and Finance Center, UNCLASSIFIED Letter 7220: NAFC-41 to Chief of Naval Operations, Subject: Financial Affairs of Naval Personnel, 25 August 1988.
23. Schein, Edgar H., "Organizational Socialization and the Profession of Management," Sloan Management Review, V. 30, Fall 1988.
24. Telephone conversation between LT David Pry, Midshipman Financial Advisor, U.S. Naval Academy and the author, 2 January 1990.
25. Telephone conversation between CDR Michael Uebelherr, Code N64, Chief Naval Education and Training and the author, 2 January 1990.
26. Telephone conversation between Norman Thrash, Code N1/0823, Chief Naval Education and Training and the author, 2 January 1990.

27. Chief of Naval Operations, OPNAVINST 1500.22D, Subject: General Military Training (GMT), 27 May 1987.
28. Telephone conversation between Dr. Imelda Idar, Code 112C, Office of the Chief of Naval Operations and the author, 19 May 1989.
29. Telephone conversation between Kathryn Decker, Code 6613, Naval Military Personnel Command and the author, 24 March 1989.
30. Telephone conversation between Charlene Plympton, Navy Relief Society and the author, 27 March 1989.
31. Department of the Navy, Office of the Secretary, UNCLASSIFIED Memorandum for the Chief of Naval Operations and the Commandant of the Marine Corps, Subject: Personal Financial Management (PFM) Training, 4 August 1989.

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